

In the Claims

1. [[]] (currently amended) A polymerizable composition comprising

- a) an ethylenically unsaturated monomer;
- b) a radical polymerization initiator; and
- c) a hydroxylamine, a nitron or an alkyl N-oxid having a molecular weight of more than 250 g/mol.

2. (currently amended) A polymerizable composition ~~according to~~ according to claim 1 wherein the ethylenically unsaturated monomer is selected from the group consisting of ethylene, propylene, n-butylene, i-butylene, styrene, substituted styrene, conjugated dienes, acrolein, vinyl acetate, vinylpyrrolidone, vinylimidazole, maleic anhydride, (alkyl)acrylic acidanhydrides, (alkyl)acrylic acid salts, (alkyl)acrylic esters, (alkyl)acrylonitriles, (alkyl)acrylamides, vinyl halides and vinylidene halides.

3. (currently amended) A polymerizable composition according to claim 1 wherein the ethylenically unsaturated monomer is a compound of formula $\text{CH}_2=\text{C}(\text{R}_a)-(\text{C}=\text{Z})-\text{R}_b$, wherein Z is O or S;

R_a is hydrogen or $\text{C}_1\text{-C}_4$ alkyl;

R_b is NH_2 , $\text{O}^-(\text{Me}^+)$, glycidyl, unsubstituted $\text{C}_1\text{-C}_{18}$ alkoxy, $\text{C}_2\text{-C}_{100}$ alkoxy interrupted by at least one N and/or O atom, or hydroxy-substituted $\text{C}_1\text{-C}_{18}$ alkoxy, unsubstituted $\text{C}_1\text{-C}_{18}$ alkylamino, di($\text{C}_1\text{-C}_{18}$ alkyl)amino, hydroxy-substituted $\text{C}_1\text{-C}_{18}$ alkylamino or hydroxy-substituted di($\text{C}_1\text{-C}_{18}$ alkyl)amino, $-\text{O}-\text{CH}_2-\text{CH}_2-\text{N}(\text{CH}_3)_2$ or $-\text{O}-\text{CH}_2-\text{CH}_2-\text{N}^+\text{H}(\text{CH}_3)_2 \text{An}^-$;

An^- is an anion of a monovalent organic or inorganic acid; and

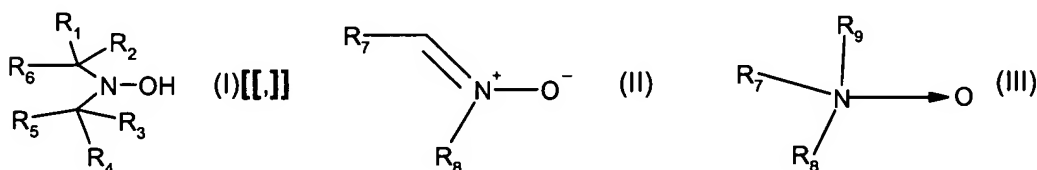
Me is a monovalent metal atom or the ammonium ion.

4. (original) A polymerizable composition according to claim 2 wherein the ethylenically unsaturated monomer is styrene, n-butylacrylate, tert-butylacrylate, methylacrylate, ethylacrylate, propylacrylate, hexylacrylate or hydroxyethylacrylate.

5. (original) A polymerizable composition according to claim 1 wherein the radical polymerization initiator is a azo compound, a peroxide, a perester or a hydroperoxide.

6. (original) A polymerizable composition according to claim 5 wherein the radical polymerization initiator is a azo compound or a peroxide.

7. (currently amended) A polymerizable composition according to claim 1 wherein in component c) the hydroxylamine, the nitron or the alkyl N-oxid having a molecular weight of more than 250 are of formulae (I), (II) or (III)



where

R₁, R₂, R₃ and R₄ are independently hydrogen, phenyl or C₁-C₄alkyl;

R₅ and R₆ are independently C₇-C₃₅alkyl, C₇-C₃₅alkenyl or C₇-C₃₅alkinyl, which may be unsubstituted or substituted by phenyl, halogen, NH₂, N(R₂₁)₂, -OH, -CN, -NO₂, or -COOR₂₁; or which may be interrupted by -O- or -C(O)-;

R₅ and R₆ together are an alkylene bridge, which may be interrupted by a -O-, -C(O)- or a -N(C₁-C₁₈alkyl)- group to form a heterocyclic 5, 6, 7 or 8 membered ring, which may be further substituted by a -O-C(O)-]_nR₂₀, NR₂₁-C(O)-]_nR₂₀ or a ketal group;

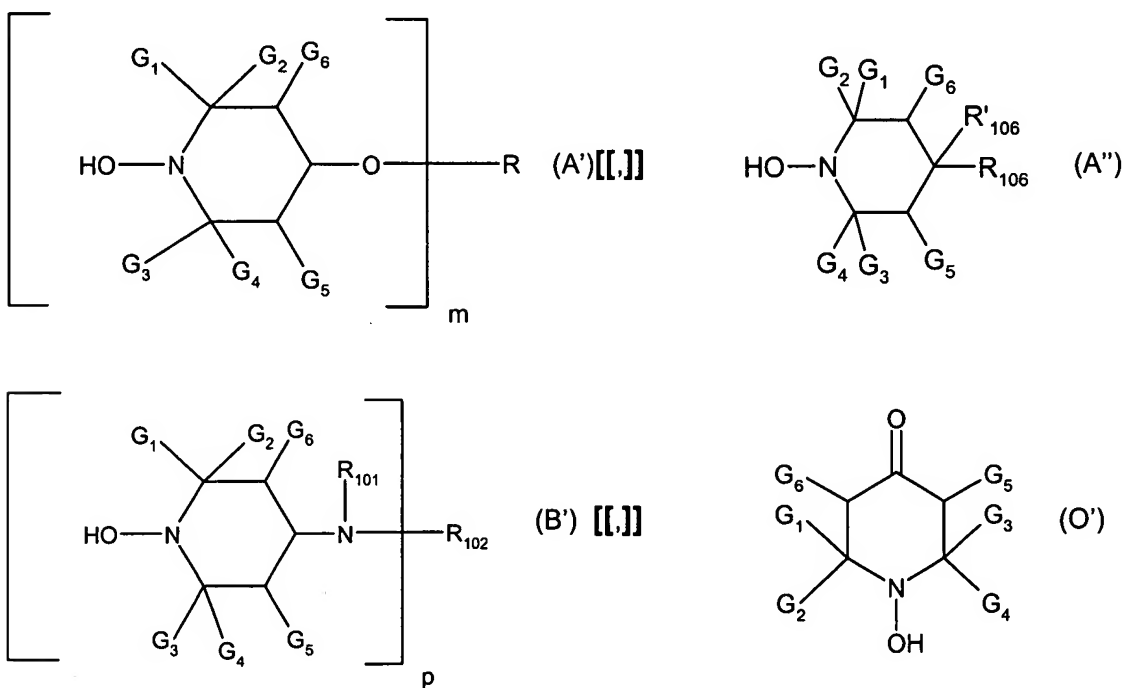
n is 1 or 2; wherein, when n is 1, R₂₀ is hydrogen or C₁-C₁₈alkyl and, when n is 2, R₂₀ is C₁-C₁₈alkylene; R₂₁ is hydrogen or C₁-C₁₈alkyl;

R₇ and R₈ are independently C₈-C₃₆alkyl; and

R₉ is C₁-C₄alkyl.

8. (original) A polymerizable composition according to claim 7 wherein the hydroxylamine is of formula (I).

9. (currently amended) A polymerizable composition according to claim 7 wherein the compound of formula (I) is of formula A', A'', B' or O'



wherein

m is 1,

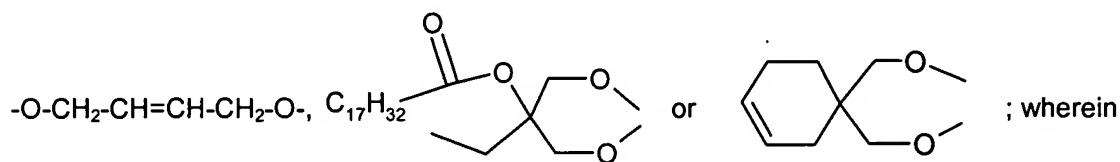
R is hydrogen, C₁-C₁₈alkyl which is uninterrupted or interrupted by one or more oxygen atoms, cyanoethyl, benzoyl, glycidyl, a monovalent radical of an aliphatic carboxylic acid having 2 to 18 carbon atoms, of a cycloaliphatic carboxylic acid having 7 to 15 carbon atoms, or an α,β-unsaturated carboxylic acid having 3 to 5 carbon atoms or of an aromatic carboxylic acid having 7 to 15 carbon atoms;

p is 1;

R₁₀₁ is C₁-C₁₂alkyl, C₅-C₇cycloalkyl, C₇-C₈aralkyl, C₂-C₁₈alkanoyl, C₃-C₅alkenoyl or benzoyl;

R₁₀₂ is C₁-C₁₈alkyl, C₅-C₇cycloalkyl, C₂-C₈alkenyl unsubstituted or substituted by a cyano, carbonyl or carbamide group, or is glycidyl, a group of the formula -CH₂CH(OH)-Z or of the formula -CO-Z or -CONH-Z wherein Z is hydrogen, methyl or phenyl;

R_{106} and R'_{106} together are both hydrogen, a group $=O$ or $=N-O-R_{120}$ wherein R_{120} is H, straight or branched C_1 - C_{18} alkyl, C_3 - C_{18} alkenyl or C_3 - C_{18} alkynyl, which may be unsubstituted or substituted[[.]] by one or more OH, C_1 - C_8 alkoxy, carboxy[[.]] or C_1 - C_8 alkoxycarbonyl; or is C_5 - C_{12} cycloalkyl or C_5 - C_{12} cycloalkenyl; or is phenyl, C_7 - C_9 phenylalkyl or naphthyl which may be unsubstituted or substituted by one or more C_1 - C_8 alkyl, halogen, OH, C_1 - C_8 alkoxy, carboxy[[.]] or C_1 - C_8 alkoxycarbonyl; or is $-C(O)-C_1$ - C_{36} alkyl, or an acyl moiety of a α,β -unsaturated carboxylic acid having 3 to 5 carbon atoms or of an aromatic carboxylic acid having 7 to 15 carbon atoms; or is $-SO_3^-Q^+$, $-PO(O^-Q^+)_2$, $-P(O)(OR_2)_2$, $-SO_2-R_2$, $-CO-NH-R_2$, $-CONH_2$, $COOR_2$, or $Si(Me)_3$, wherein Q^+ is H^+ , ammonium or an alkali metal cation; or R_{106} and R'_{106} are independently $-O-C_1$ - C_{12} alkyl, $-O-C_3$ - C_{12} alkenyl, $-O-C_3$ - C_{12} alkynyl, $-O-C_5$ - C_8 cycloalkyl, $-O$ -phenyl, $-O$ -naphthyl[[.]] or $-O-C_7$ - C_9 phenylalkyl; or R_{106} and R'_{106} together form one of the bivalent groups $-O-C(R_{121})(R_{122})-CH(R_{123})-O-$, $-O-CH(R_{121})-CH(R_{122})-C(R_{122})(R_{123})-O-$, $-O-CH(R_{122})-CH_2-C(R_{121})(R_{123})-O-$, $-O-CH_2-C(R_{121})(R_{122})-CH(R_{123})-O-$, $-O$ -o-phenylene- $O-$, $-O$ -1,2-cyclohexyliden- $O-$,



R_{121} is hydrogen, C_1 - C_{12} alkyl, $COOH$, $COO-(C_1-C_{12})$ alkyl or CH_2OR_{124} ;
 R_{122} and R_{123} are independently hydrogen, methyl ethyl, $COOH$ or $COO-(C_1-C_{12})$ alkyl;
 R_{124} is hydrogen, C_1 - C_{12} alkyl, benzyl, or a monovalent acyl residue derived from an aliphatic, cycloaliphatic or aromatic monocarboxylic acid having up to 18 carbon atoms;
 G_6 is hydrogen and G_5 is hydrogen or C_1 - C_4 alkyl, and
 G_1 , G_2 , G_3 and G_4 are methyl; or
 G_1 and G_3 are methyl and G_2 and G_4 are ethyl or propyl or G_1 and G_2 are methyl and G_3 and G_4 are ethyl or propyl.

10. (original) A polymerizable composition according to claim 7 wherein in the hydroxylamine of formula (I)

R_1 , R_2 , R_3 and R_4 are hydrogen; and

R_5 and R_6 independently are C_7 - C_{35} alkyl or C_7 - C_{35} alkenyl.

11. (original) A process for preparing an oligomer, a cooligomer, a polymer or a copolymer (block, random or graft) by free radical polymerization of at least one ethylenically unsaturated monomer or oligomer, which comprises (co)polymerizing the monomer or monomers/oligomers in the presence of

b) a free radical initiator and

c) a hydroxylamine, a nitron or an alkyl N-oxid having a molecular weight of more than 250 g/mol.

12. (currently amended) A process according to claim 11 wherein the polymer obtained has a polydispersity of between 1.1 and 2.5.

13. (currently amended) A process according to claim 11 wherein the polymerization is carried out by heating and takes place at a temperature of between 70°C and 160°C.

14. (original) A process according to claim 11 wherein the hydroxylamine, the nitron or the alkyl N-oxid having a molecular weight of more than 250 g/mol is present in an amount of 0.001 to 10 mol % based on the monomer or monomers.

15. (original) A process according to claim 11 wherein the weight ratio between the radical polymerization initiator and the hydroxylamine, the nitron or the alkyl N-oxid having a molecular weight of more than 250 g/mol is from 1:5 to 5:1.

16. (currently amended) A polymer or copolymer obtained~~able~~ by a process according to claim 11.

17. (canceled)